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THE FUNERAL TENT OF AN EGYPTIAN QUEEN

The Funeral Tent of an Egyptian Queen. By Villiers Stuart, of Dromana, M.P. (London: John Murray, 1882.)

THE startling discoveries of the royal mummies in the pit of the Deir-el-Bahari has already been the subject of great interest, and cast an unexpected light on the history of embalming and the vicissitudes of the dead as well as the living, revealing the unexpected transport of the monarchs from their costly chambers and sarcophagi of the Biban-el-Molouk to the Deir-el-Bahari in the fifth year of a monarch named Herhor, of the 21st dynasty, one of that line of ambitious pontiffs who, at a time of national decay, mounted the Egyptian throne. That the tomb of the Deir-el-Bahari was the resting-place of Herhor himself and his family appears from the discovery of their mummies at the same site along with 6000 sepulchral objects, some of which are already filtering to Europe, and others discovered at least ten years ago, already enrich the collections of the Louvre. The numerous duplicates of the smaller and portable objects can neither be all retained in the country, nor is it desirable they should be in the interests of science, for the interest would be languid which allowed them all to remain on the banks of the Nile. The reason why these archaeological treasures were deposited in the Deir-el-Bahari is quite uncertain, and as the hieratic inscriptions on the shrouds only speak of their removal and condition, the cause is likely for the present to remain undiscovered. The Deir-el-Bahari was built by Thothmes I., II., Hatasu, the ambitious queen, and her warlike brother Thothmes III., as it was a spot especially favoured by the 18th dynasty. Probably the 21st dynasty was descended by the female line from the 18th, for families do not readily become extinct in that direction, and there are living descendants of the Plantagenets at the present day. The resumption of the titular names of the 18th dynasty by the 21st also points to a connection between the two families, although it is difficult to conceive the precise point from which it started. As however the first monarch of the 21st had been a prince of Kush or *Aethiopia*, and these princes or viceroys were continued in a lineal descent during the 18th and 19th dynasties, it may perhaps be the case that Pinotem I. and II. were descended by that family from the monarchs of the 18th dynasty.

It is not necessary to dwell on the mummies, but some of the facts mentioned by Mr. Villiers Stuart in his work are remarkable, such for example as the wailing of the Arab women along the Nile on their removal by the steamers to the Museum of Boulaq, for although professional mourners the lamentations of these women were spontaneous and gratuitous. On the arrival of the mummies at Cairo, that of Thothmes III. was unrolled, and that illustrious soldier, a little man, a martial pygmy of the most fragile mould, far more fragile than the flowers with which he was surrounded, vanished like a dream after, as it is said, a rapid photograph had

been taken of his features, so that only a carte de visite of his remains has been left for posterity. Rameses II. was a hero of the grenadier type, for his height is at least six feet, but he has not been unrolled, the loss of Thothmes III. having discouraged the Boulaq authorities, so that for the present the vexed question of his features, whether the heroic aquiline nose or the ordinary flat Egyptian, remains in abeyance. The other mummies which have been partly denuded are the priest Nebseni, of the 18th dynasty, whose features are good Egyptian, and Pinotem II., whose capacious mouth and thick lips announce a Nigritic origin or intermixture of blood; others, as Isiemkheb and Makara, have been left in their bandages for a future period to unravel. The queen Notemut, the grandmother of Makara, and a remote progenitor of Isiemkheb, had however hair streaked with silvery gray, and was an old woman still retaining the coquetry of a careful plaiting of her locks. Some of the family were of mixed origin, and when was the Egyptian race otherwise, except when foreign conquests introduced other blood into the country. The greater portion, however, of Mr. Stuart's work is occupied with the description of the leather canopy of the queen Isiemkheb. This ancient pall was composed of numerous pieces of leather tanned by the bark of the *sont* or acacia, and sewn together by red cord, and is supposed to have covered the mortuary cabin of the sacred boat or horse, to which it formed a kind of baldacchino. It is exceedingly brittle, and the colours are still well preserved, the centre 9 feet long by 6 feet wide, and divided into two equal sections, one of which is covered by pink and yellow rosettes on a blue ground, the other displaying six flying vultures flying with extended wings and holding feather sceptres in their claws; they are separated from one another by horizontal lines of hieroglyphs, the name and titles of Masaharuta, high priest of Amen Ra, the deity of Thebes, and a row of pink rosettes on a yellow ground. On either side is a flap divided from the central section by four bands of colours—blue, red, yellow, and green—and further divided by a border of spearhead pattern. Below this comes a row of panels containing a row of emblematical devices, predominant amongst which is the scarabaeus, flying with extended wings, thrusting forward the solar disk—emblems of the sun-god—but having with this emblem the representation of a gazelle, supposed to be the favourite of the queen, twice repeated, a singular representation of two united ducks, and ornaments like the Greek antefixal and the cartouche or royal name of Pinotem II. seven times repeated. Below this is a border of pink and blue chequers at the bottom, with a broad kilt of pink or perhaps originally scarlet. This magnificent work of leather measures 22 feet 6 inches in length, and 19 feet 6 inches wide, containing a space of 201 square feet of leather. It is the most remarkable object next to the historical mummies of the whole collection, and exhibits the greatest technical skill in preparation, and artistic excellence in execution and design. Its age is somewhere about the time of Solomon, but the length of the reigns of the monarchs of the 21st dynasty lies entombed in the vaults of the Serapeum, which contained the 24th, 25th, and 26th Apis mummies, and which Mariette found practically inaccessible from the collapse of the vault. The period, however, was that of foreign alliances, as shown by the flight of Adad, the Idumæan

prince, to Egypt, and his marriage with the sister of the queen. Besides the devices the canopy was ornamented with a hieroglyphical inscription, the purport of which appears to be that the queen in the future state was in the arms of Khonsu, one of the deities of Thebes, son of Mut and Amen, "redolent with perfumes sweet as those of Punt," the present Somali or Guardafui, and "crowned with flowers." Those found in the coffins of this period, and which still preserved their original colours, have been determined to be blue larkspur, yellow mimosas, or acacias, and the white lotus, besides which, according to Mr. Stuart, a moss was discovered in the coffins resembling a kind found only in Greece. The coloured plate of the canopy which accompanies this part of the work gives an idea of the brilliancy of this remarkable piece of leather embroidery as it appeared nearly three thousand years ago. Specimens of this leather canopy, which have been brought to England, show that the colours with which it was painted or dyed still retained their original lustre. From some unknown circumstance they have, like the flowers, never paled by the effects of time.

In his commentary on the text, which it is unnecessary to follow here in detail, Mr. Stuart has given an account of the scarabaeus, known as the *Copris Isidis* of Savigny, and detailed a fact not generally known or described in the account of that insect. Instead of propelling the clay ball or pellet or the dung cased in with clay as the other kinds of this family are said to do with their hind legs, the male *Copris Isidis* carries the ball on its head and neck, for which the peculiar formations of the horns and projections of the thorax are specially adapted. One has been found wending its way over the ground with its spherical load, another has been knocked down bearing it as the beetle hummed his drony flight through the air.

Besides the description of the leather pall, Mr. Stuart gives some account of the recently discovered pyramid of Pepi at Sakkarah and that of Haremsaf. The interior of these pyramids, unlike any of the others, was covered with incised inscriptions coloured green, a peculiarity seen also on some sepulchral tablets. The inscriptions of these pyramids are mythological phrases, consisting of formulas like those of the Ritual comparing the passage of the soul of the deceased kings after death through the heavens to the movement of the constellation Orion and the course of Sothis or the Dog Star. Amongst the other new facts mentioned in these inscriptions is that of the tree of life, which is placed in the island of the blest amongst the pools of the fields of the Aahlu or Egyptian Elysium. A new light is shed on the earlier mythology by these texts, which chiefly turn on the Nut or goddess of the Ether, from whom Osiris and the monarch in the character of that god is descended. These remarkable texts have been translated by Brugsch-Bey, and Lauth. It is much to be regretted that these inscriptions are so entirely religious, and that these earliest of hieroglyphic monuments offer no contribution to the history of that remote period, Meidoum, is surrounded by tombs, in one of which the author found the name of Senofru of the 3rd dynasty. The attempts to solve the antiquity of this sepulchre from other sources has failed like all the earliest works of Egypt; for the passage is uninstructive, some scribes of a later age have scrawled or scratched a memorandum of a visit, but the walls are otherwise silent,

and the chamber has not been found in which the royal tenant was deposited. The mastabas of the age do not abound in relics, and the antiquity of some of the terra cotta vases has been impugned, the criteria of the different kinds of pottery being obscure. At Dashour the author found a very early tomb of a person named Afoua, but although the style of art announced a high antiquity, the inscriptions were curt, and in the oldest form, offered no novel points of interest, they were like those of the slab of the 3rd dynasty at Oxford, supposed to have been brought by Greaves from Egypt.

Mr. Stuart has published the tomb of Rameses, the governor of Thebes, in the reign of Amenophis IV., and the so-called Khuenaten, and enters into a discussion of the difference between Amenophis IV. and the heretic monarch. The general idea is that Amenophis IV. adopted the worship of the sun's disk soon after his accession, and altered his name from Amenophis, or "the peace of Amen," to that of Khuenaten, or the "splendour of the disk," in honour of the orb of heaven, whose worship he had substituted for that of the Theban god. The fact that the features of Amenophis and Khuenaten essentially differ, the one depicted as a rotund youth, the other that of a haggard septuagenarian, had long attracted attention, and been explained on the hypothesis that the portraits of Egyptian royalty were conventional, and therefore not to be depended on, and that the introduction of the new worship had unshackled the technical details of the Egyptian artists. But who was the mysterious Khuenaten? was he an emasculated virility of the harem, or a withered senility of the Nigritic race who had ascended the throne of Egypt? Was he possibly the old queen Tii, who, ambitious of power, had assumed manly costume and, attended by a mock or daughter queen and attendant princesses, endeavoured to set up a new capital and a foreign cultus at a small but rival capital. All is mystery, the facts pointed out by Mr. Stuart of the different features which could not change with the same facility as the name, the different functionaries of the two courts, the strange and servile homage paid by the courtiers of the old heretic and perhaps impostor, the copious bribery of the novel monarchy only add to the unsolved problem, and are not the least interesting part of the work. The identity of the two monarchs as two single gentlemen rolled into one will be long contested, as even the tomb at Thebes gives the same name and titles to the erased and mutilated heretical forms of Khuenaten. Amongst his miscellaneous plates are one of the mummy of Thothmes III. in its bandages, a box of the queen Makara, and some mummies of the find at Deir-el-Bahari.

These are also known from the photographs of M. Emile Brugsch, attached to the report of Maspero. Some discussions and examples of the Indo-Germanic nature of the Egyptian language are given; but this branch of philology is a knotty point, for the Egyptian language is not of a decidedly Indo-Germanic construction, although many of the words undoubtedly have Indo-Germanic analogies.

The main interest of the work, however, centres in the monuments of the Deir-el-Bahari, especially the leather canopy of Isiemkheb. There are, however, in Egypt such an enormous mass of unpublished monuments and

inscriptions that even the Deir-el-Bahari find is not to compare with the inscriptions on the temples of Denderah and Edfu, and those of the caves of Siut.

HYDROGRAPHICAL SURVEYING

Hydrographical Surveying; a Description of the Means and Methods employed in constructing Marine Charts.
By Capt. W. J. L. Wharton, R.N. (London: Murray, 1882.)

CAPT. WHARTON, who has had considerable experience in nautical surveying, having been in command of surveying vessels for nearly ten years, has devoted his time, during the short interval he has been unemployed, to writing a work on this part of the naval profession which he modestly describes, in his preface, as an endeavour to collect together information, which has existed for years in a traditional form amongst surveyors, for the benefit of young officers who may wish to devote themselves to surveying work in the future.

A book of this sort was certainly much needed as since the time of Sir Edward Belcher, only one treatise has been written by a naval surveyor—Capt. R. Mayne, R.N., C.B.—and we think Capt. Wharton deserves the thanks of the profession for his exertions, and we hope to see his work adopted as the text-book for instruction at the Royal Naval College.

Before however reviewing Capt. Wharton's treatise we propose to state briefly what we consider to be the requirements of a nautical survey.

The perfection of marine surveying appears to us to be the representation in a graphic form, readily understood, of the coasts and harbours of the world with their various off-lying dangers ; marking distinctly the various features of high and low water lines, showing the dangers to be avoided and the channels available for navigation, placing prominently on the chart those objects on the land which serve best to ascertain the position of a ship, and subordinating all other features to these objects, so that the channels to be used, and the marks by which those channels can be recognised, are easily distinguished ; as well as representing the set of the tides and currents and the errors of the compass. To execute such a survey it is evident considerable care must be bestowed in ascertaining accurately the positions of the land marks, as on these depend the whole of the work, but this accuracy need not be carried to such a degree of minuteness that it cannot be shown on the chart ; for, after all, the principal object of a chart is to show the soundings ; and enough care has been bestowed on the land-marks if their positions are ascertained with sufficient precision for soundings. Of course circumstances occasionally arise when, from other causes, it may be advisable to modify this arrangement, but not for the purpose of navigation.

Capt. Wharton appears to have kept these objects steadily in view in writing his work. The work commences with a description of the instruments used in nautical surveying, which, although previously given by Heather and by Simms, cannot be considered out of place, and then gives a description of marine surveying in general, afterwards entering into particulars. We regret that in the description of the sextant the important errors of centering and graduation have been overlooked.

We much commend the following remark at p. 54, too often ignored by surveyors :—"The accuracy necessary in many details of a chart depends very much upon its scale. Over-accuracy is loss of time. Any time spent in obtaining what cannot be plotted on the chart is, as a rule, loss of time."

Of course the scale on which a survey should be executed should be settled after due consideration. It is evident that an inaccessible coast, off which there is deep water, does not require the same accuracy of delineation as a coast studded with bays and harbours, or off which numerous dangers exist ; or those portions of the globe little frequented by shipping the same care as the coasts of the United Kingdom. These points must to a great extent be left to the officers in charge of a survey, but the scale once settled no time should be wasted over details which cannot be shown on that scale.

Capt. Wharton's remarks on soundings are excellent. There is no doubt that this, the most important work of the marine surveyor, is very monotonous. To sit in a boat day after day, from early morn to dewy eve, marking in a book soundings and angles, with the salt from the spray drying up one's skin, and the sun blistering one's nose requires more than ordinary zeal, patience, and perseverance ; and only long practice enables the surveyor to really take an interest in this work. Young surveyors should, however, remember, that every other detail is subordinate to this, and that until they can really sound, thoroughly, over a given patch of ground without loss of time they cannot be considered masters of the profession.

Capt. Wharton's remarks on obtaining latitudes and running meridian distances are excellent. We think indeed that, in the latitude, the same results might be obtained with less figures, but it is by no means easy to draw a hard and fast line.

In the remarks on tides, no mention is made of the importance of referring the result obtained to a fixed mark on the shore, nor any observation as to the diurnal inequality, and consequently the necessity of, on all occasions, when practicable, registering both day and night tides. In the Eastern Archipelago the diurnal inequality is in some places 4 to 5 feet, and in Australia the mean tide level also differs at different times. These facts appear to have escaped Capt. Wharton's notice, but probably will be inserted in another edition.

In the remarks on searching for Vigias, and ascertaining the position of a ship at sea, Capt. Wharton seems to think accurate observations cannot be obtained, as he asserts the position of a ship to be doubtful to three miles.

On this point we must differ from him, as long experience has proved, to our own satisfaction, that provided the weather is fairly clear the position of the ship can be obtained to half a mile. Nor in asserting this do we rest on single evidence, as Capt. Moriarty, R.N., C.B., in the *Great Eastern*, had no difficulty in picking up the end of the Atlantic cable when it had been slipped from the ship.

The fact is the great error in sea observations is due to the refraction of the horizon, but it must be borne in mind that, excepting in shallow water, this is but slight, and that it can always be corrected by observing on opposite sides of the horizon.